

REMARKS

Entry of the amendment and its consideration is respectfully requested, since the amendment would reduce the issues on appeal, responds to a rejection made for the first time in the Final rejection, and does not introduce new matter.

Upon entry of the amendment, Claims 1-7 and 9-11 would be before the Examiner. Claim 4 has been amended to specify the salt. Claim 8 has been cancelled. Claim 1 has been amended to improve clarity and to incorporate the cancelled subject matter of claim 8. Support for the changes appears in the paragraph bridging pages 1 and 2 of the specification. Claim 3 has been amended to set forth the preferred range as set forth on page 2- "500-20,000".

Claims 4, 6-7, 9, and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse.

Claim 4 has been amended in the manner suggested by the Examiner.

Accordingly, withdrawal of the rejection is respectfully requested.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2,223,377 taken in view of Vanell (6,423,638). Applicants respectfully traverse.

Claims 1-3, 5, and 8 are directed to a narrow distribution of pyrogenically produced potassium-doped metal or metalloid oxide particles, having a BET surface between 1 and 1000 m²/g, wherein the distribution is at least 7. Claim 1 now specifies the threshold concentration of claim 8 that results in the morphological changes necessary for the narrow range. Claim 11 specifies a third step, which is a further point of distinction. As to the criticality of one or more of the claimed ranges and/or step sequence, the Examiner's attention is directed to Figures 11A - 13B (Table 4 and Example 7(20% potassium dopant)). These figures should be contrasted with Figures 8A-10B (Table 3 and Example 1 (no dopant)).

The Examiner is of the opinion that the combination of the teachings of the Vanell separation process and the product and methodology of the CA 2,223,377 (Mangold) would result in the claimed invention. Applicants disagree. The individual teachings, taken alone or in combination, are insufficient to arrive at the invention as claimed. Further, it is submitted that the references are not suggestive of their combination, e.g. there is not a problem apparent in Mangold for which Vanell teaches a solution. It appears that the Examiner in part relies on the teachings of the instant specification to assemble and combine the Mangold and Vanell references.

Mangold does not teach the claimed particle characteristics. There is no recognition of the criticality of claimed distribution range. There is no explanation in the Office Action as to why it would be reasonable to expect that the claimed range is inherently taught. This is equally true of the characteristics recited in the dependant claims. Mangold discloses in Example 5 a method to produce doped silicon dioxide, which contains potassium as a dopant. The content of KCl taught in Example 5 is 0.5%. Compare the examples of the instant specification where concentrations greater than 5%, e.g. 12.55%, 20%, are employed to obtain the claimed concentration of dopant. Another distinguishing feature over the Mangold is the claimed oxygen introduction step (see claim 11).

The Mangold reference is equivalent to DE 196 50 500, which is cited on page 1, paragraph 2, of the instant specification. Another difference between the cited art according to DE 196 50 500 is disclosed on page 1 and page 2 of the instant specification, where it is said that the narrow breadth of the distribution of the particle size (at least 0.7) is responsible for the effect that no scratches are caused by large particles during the chemical-mechanical polishing.

The breadth of the particle distribution of at least 0.7 is unique. It results from the selection and utilization of specified process conditions. In this regard note Table 2 of on page 21 of the instant specification. Different doped silicon dioxides result from the range of conditions taught. Consider instant examples 2-7 and the various concentrations of KCl. Also the resulting silicon dioxides show different BET surfaces, which suggests that their primary particle sizes also vary. This means that the particle size can be influence by the KCl content of the KCl solutions. This relationship is also not taught by Mangold.

The pyrogenically produced oxides exhibit spherical round primary particles in an electron microscope image that are slight ingrown with each other, which is expressed in the fact that no end point can be recognized in a determination of structure according to the BP method. Further, highly filled dispersions with a low viscosity can be produced from these pyrogenic powders doped with potassium (see paragraph 2 on page 4 of the specification).

The secondary reference, Vanell (US 6,423,638), does not remedy the deficiencies of the primary reference noted above. Vanell merely discloses the filtering of a colloidal silica suspension. Fumed, pyrogenic silica is not mentioned in the Vanell patent as a source material for its process. (Vanell only mentions silicon dioxide in column 15, line 45-59 as a point of comparison.) Colloidal silica is not pyrogenic silica. Colloidal silica is formed from sodium silicate directly in solution. Pyrogenic silica is not. Please consider U.S. Patent No. 6,676,719 where differences between the two are discussed in the background section. The discussed differences include dispersibility and purity. Colloidal silica has impurities and is readily dispersible while pyrogenic is not. (It is pure, however).

The Vanell filter method only separates smaller particles from larger particles. This is not a method which narrows particle size distribution range having both large and small particles.

Vanell merely achieves a separation of smaller particles from larger ones relative to the threshold value of filter. This would not result in the claimed distribution.

Also, Applicants are of the opinion that there is no known method, which allows one to screen a fumed metal oxide. The Examiner has provided no reference providing such a teaching.

Accordingly, withdrawal of the rejection is respectfully requested since a *prima facie* case has not been established. As to the product claims, the teachings of the references, taken alone or in combination, fail to teach or suggest the claim product characteristics. As to the method claims, it is not clear as to why the references would be combined. The materials involved are chemically distinct. Further, even if the references were deemed combinable, the combined teaching are insufficient to teach the invention as now claimed.

In view of the foregoing amendments and remarks, the application is believed to be in condition for allowance and a notice to that effect is respectfully requested.

Should the Examiner not find the application to be in allowable condition or believe that a conference would be of value in expediting the prosecution of the application, Applicants request that the Examiner telephone undersigned to discuss the case and afford Applicants an opportunity to submit any Supplemental Amendment that might advance prosecution and place the application in allowable condition.

Respectfully submitted,



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